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Agenda Item 7

August 15, 2011

TO: MEMBERS OF THE INVESTMENT COMMITTEE

I. SUBJECT: Graduation of Internal Enhanced Equity Strategy

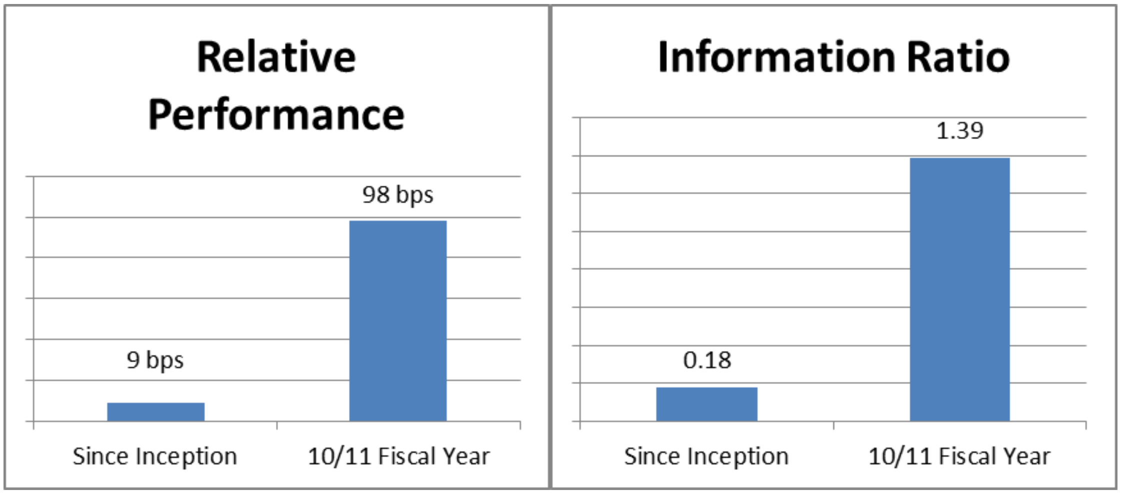
II. PROGRAM: Growth – Public Equity

III. RECOMMENDATION: Staff recommends that the Internal Fan Long Only Strategy graduate out of the Global Equity Developmental Program and into the existing line up of Global Equity funds with a current proposed maximum capital allocation of 1%, to complement the existing risk / return profile of the Total Global Equity Portfolio.

IV. ANALYSIS:

Background

In October 2009, Global Equity launched a long-only development portfolio in the Global Equity Development Investment Fund based on investment principles and stock ranking models developed from Dr. Stephen Fan's General Capital Asset Pricing Model (GCAPM) theory. The strategy provides broad equity market exposure with an improved return / risk profile relative to its CalPERS Custom Domestic Large/Mid Index. The $100 million portfolio, managed collaboratively with Dr. Fan, provides staff with data from various models that is used to construct and manage the portfolio. Dr. Fan previously served as a resource to the internally managed Microcap Portfolio and assisted with the successful launch of the Fan Long Only Strategy within the Global Equity Development Investment Fund.



Investment Process and Strategy

The GCAPM derives two important active investment principles (holding all else equal):

- Asset price will increase if an asset's expected return is rising
- Asset price will increase if an asset's risks or risk premiums are decreasing

Hence, the main investment thesis of the Fan Long Only strategy is to invest in stocks whose earnings and earnings growth are rising and whose risks and/or risk premiums are decreasing.

Four stock ranking models support the implementation of this investment thesis. The models forecast the active investment principles and capture specific aspects of the fundamental forces of stock picking. The four models complement each other by reducing performance volatilities and generating consistent stock ranking power under most market conditions. Independently, each model may be too volatile or not robust enough to warrant investment.

Below is a brief description of the models used to support the strategy:

- **Earnings Estimate Revision Model –** Constructed from 10 sub-models, this model is the main alpha driver for the Fan Long Only investment strategy. Its purpose is to capture a stock's earnings per share changes.

- **Earnings Growth Model –** Constructed from three sub-models, this model is a supplemental alpha driver for the strategy. Its purpose is to capture a stock's earnings growth capability by utilizing historical, near-term, and long-term earnings growth models.

- **Cash Flow Model –** This model is a fundamental qualifier for the strategy (i.e. attempts to avoid stocks with negative cash flow generating characteristics). Its purpose is to capture a stock's cash flow generating capabilities over the last two years.

- **Price Momentum Model –** This model is a secondary alpha driver designed to capture stock risk premium changes through investor sentiment by monitoring daily price momentum and volume changes.

- **Composite Model –** This model combines the aforementioned stock ranking models and produces a score for each stock ranging from -4 to +4, which represents the cumulative negative, neutral, and positive ranked stocks from each individual model.

<u>Portfolio Construction and Risk Management</u>

Dr. Fan generates the composite model data and sends staff an excel data file of ranked stocks. CalPERS staff process the file and translate the data into an alpha score for each stock within the benchmark. The alpha scores are loaded into Quantal, a third party vendor providing risk management and optimization software. The Quantal software analyzes the portfolio relative to its benchmark, and if necessary, constructs a balanced portfolio that maximizes the portfolio's return relative to its defined projected tracking error constraints. The model data and optimization provide staff with information to support the construction of Fan Long Only portfolio.

The following risk management guidelines are followed to manage total risk derived from multiple sources:

- **Tracking Error Risk Management –** The strategy's targeted tracking error risk is dynamically managed within a range of 40 to 400 bps per annum.

- **Downside Risk Management –** To avoid extreme downside risk induced by the extreme uncertainty of stock ranking models, the fund's projected portfolio tracking error risk could be reduced to as low as 0.4% under extremely uncertain macroeconomic environments such as what we have experienced lately. Conversely, we could increase the fund's projected tracking error up to a maximum 4% to capture higher alpha with minimum downside risk under extremely certain macroeconomic environments.

- **Active Exposure Risk Management:** Besides projected fund tracking error risk management, the proposed fund will limit its risk exposures at both individual stock and economic sector levels. At the individual stock level, we propose to limit the fund's active individual stock bets to be no more than 1% deviation from that of the benchmark. At the sector level, we propose to limit the fund's active sector bets to be within 5% relative to the benchmark's weights.

- **Absolute Risk Management –** The fund will budget its relative tracking error risk through stocks whose absolute financial risks are decreasing.

Benefits within Global Equity

Adoption of the Fan Long Only strategy provides Global Equity with the following benefits:

- **Strategic Fit –** Enhancement of Total Global Equity returns with tightly controlled risk. The strategy has been managed with CalPERS existing resources (staff, technology, infrastructure, etc.) and follows risk management guidelines that manage total risk from multiple sources.

- **Materiality –** The strategy targets 100 – 200 bps excess return relative to CalPERS Custom Domestic Large/Mid Benchmark per annum over a normal full market cycle of three to five years.

- **Risk / Return Profile –** Actual performance has been a positive 9 bps (gross of fees) annualized from inception (9/30/09) through June 2011 with an information ratio of .18. This time period includes the first two months of negative performance incurred while setting up the fund's structure. With fine tuning of the portfolio's investment process, the more recent fiscal YTD performance through June 2011 has been a positive 98 bps with an information ratio of 1.39.

- **Scalability –** This strategy is estimated to have a capacity exceeding $10 billion domestically. The strategy is also very flexible, applicable to international stocks, and any custom grouping or sub-sector of the market.

- **Prudent Investment Strategy –** The strategy is based on Dr. Fan's General Capital Asset Pricing Model's stock valuation principles and has proven to be successful in a variety of market conditions.

- **Collaborative Relationship –** Staff has worked closely with Dr. Fan developing and sharing investment research. The graduation of this strategy would leverage this relationship and lead to additional strategies that may benefit from the work of Dr. Fan.

- **Favorable Cost Proposal –** Dr. Fan has proposed an annual 3 bps data management fee combined with a performance fee of 10% of excess performance over the benchmark. The maximum annual performance fee would be capped at 50 bps with a high watermark feature.

Summary

In summary, the historical performance of the Internal Fan Long Only strategy has achieved expectations and supports the graduation of the strategy into the Global Equity portfolio. The strategy has produced returns consistent with the model's back tests, along with a high information ratio derived from the implementation of disciplined risk controls. Additionally, enhancement of the Global Equity return and risk profile may be improved through a leveraged relationship with Dr. Fan.

Staff recommends that the Internal Fan Long Only Strategy graduate out of the Global Equity Developmental Program and into the existing line up of Global Equity strategies with a maximum capital allocation of 1%. This graduation complements the existing risk / return profile of the Total Global Equity Portfolio.

Wilshire Consulting has reviewed this agenda item and will be available at the meeting to respond to questions from the Committee. See attached opinion letter (Attachment 1).

V. STRATEGIC PLAN:

This item will further the following goals of CalPERS Strategic Plan:

- Goal VIII. Manage the risk and volatility of assets and liabilities to ensure sufficient funds are available, first, to pay benefits and second, to minimize and stabilize contributions.

- Goal IX. Achieve long-term, sustainable, risk adjusted returns.

VI. RESULTS/COSTS:

In relation to passive alternatives, active strategies will entail greater costs due to asset based management fees and performance based incentive fees. Increased costs are expected to be more than offset by the generation of greater returns.

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